REMARKS

Claims 1-3, 8-16, and 21-55 are pending herein.

I. The obviousness rejections based on Okamoto (JP 02-292049) in view of Chen (US 6,162,589).

The USPTO respectfully rejects claims 1-4, 8, 16, 17, and 21 based on Okamoto in view of Chen. Claims 1 and 16 are independent claims. Claims 4 and 17 have been cancelled.

Applicants respectfully note that claims 1 and 16 have been amended to include in part the limitations of claims 7 and 20. Accordingly, Applicants also address below the Onogawa reference (EP 1,275,440), which the USPTO cites relating to claims 7 and 20.

A. The cited references do not teach or suggest a nozzle shape having a nozzle diameter of more than 0.2 μm and of not more than 4 μm, as claimed in claims 1 and 16.

Claim 1 claims in relevant part:

> "making the photosensitive resin layer stand with respect to the base plate so as to correspond to each jetting electrode and so as to form the photosensitive resin layer in **a nozzle shape having a nozzle diameter of** ~~not more than 30μm~~ **more than 0.2 μm and of not more than 4 μm**, by exposing and developing the photosensitive resin layer;" **(emphasis added)**

Claim 16 claims similar limitations. No new matter is added by the amendments. Support for the amendments can be found on page 57, line 15 through page 58, line 5 of the original application (corresponds to paragraphs [0213] and [0214] of publication US 2006/0017782). Regarding these limitations, it is respectfully not seen where the cited references teach or suggest the claimed method quoted above.

Specifically, the USPTO respectfully notes on page 4 of the Office Action that neither Okamoto nor Chen disclose using a nozzle diameter of not more than 10μm. The USPTO respectfully attempts to overcome this deficiency in Okamoto and Chen by citing Onogawa (i.e., EP '440).

However, as noted by the USPTO, Onogawa only allegedly discloses that nozzle diameters may be less than or equal to 10 μm. It is respectfully important to note that **Onogawa does not teach or suggest anything about a nozzle having a nozzle diameter in the specifically claimed range of 0.2 μm to 4 μm**, as claimed in claims 1 and 16.

In contrast, present Figure 20 illustrates one possible embodiment of the claimed method quoted above. Specifically, present Figure 20 shows jet-openings 103a (i.e., nozzles). As explained on page 67 of the original application, in at least one embodiment, **the diameter of nozzle 103a is not more than 4μm.** Additionally, as explained on page 57 of the original application, **the diameter of the nozzle is at least 0.2 μm.** Thus, nozzle 103a is one possible example the specifically claimed nozzle of claims 1 and 6 that has a nozzle diameter in the range of 0.2 μm to 4 μm.

Additionally, Applicants respectfully assert that the specifically claimed range of claims 1 and 16 has significant advantages over conventional nozzles. For example, as seen in present Figure 9 **the ratio of the jetting start voltage and the Rayleigh voltage value exceeds more than 0.6 within the claimed nozzle range of claims 1 and 16 of 0.2 μm to 4 μm** (see also pages 57-58 of the original application or paragraphs [0212-0214] of the publication). Thus, **droplets jetted from the nozzle can be sufficiently and desirably charged, and stable jetting can be performed.** Thus, it is respectfully asserted that present Figure 9 illustrates the "criticality" of the specifically claimed range of claims 1 and 16, and therefore this limitation is not obvious from Onogawa (see MPEP 2144.05 III).

Furthermore, it is respectfully asserted that there is no "common sense" or other motivation to modify the cited references to have a nozzle in the range of 0.2 μm to 4 μm, as claimed in claims 1 and 16. For example, it is respectfully noted that **the cited references are silent regarding the relationship between the nozzle diameter and electric charge of the jetted droplets.** Thus, there would be no common sense reason to modify the nozzle diameter to control the charge of the jetted droplets.

Additionally, it is respectfully noted that **Onogawa actually teaches away from using nozzle diameters less than 10 μm** (see paragraph [0018] of Onogawa, which states that "the inner diameter of the nozzle is **preferably** in a range of 10 to 100 μm). Thus, because Onogawa teaches away from the specifically claimed range of claims 1 and 16, it is

respectfully asserted that claims 1 and 16 are not obvious in view of the cited references (see MPEP 2144.05 III).

Thus, it is respectfully asserted that the cited references, taken alone or in combination, do not teach or suggest all of the limitations of claims 1 and 16. Therefore, it is respectfully asserted that claims 1 and 16 are not obvious over the cited references.

B. The dependent claims.

As noted above, it is respectfully asserted that independent claims 1 and 16 are allowable, and therefore it is further respectfully asserted that dependent claims 2-4, 8, 16, and 21 are also allowable.

II. The obviousness rejections of claims 5-7 and 18-20 based on Okamoto in view of Chen, further in view of Onogawa.

Applicants respectfully note that claims 5-7 and 18-20 have been cancelled.

III. Conclusion.

Reconsideration and allowance of all of the claims is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Please contact the undersigned for any reason. Applicants seek to cooperate with the Examiner including via telephone if convenient for the Examiner.

Respectfully submitted,

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